

**COMMONWEALTH OF VIRGINIA**

**DRINKING WATER STATE REVOLVING FUND PROGRAM**

**PROGRAM DESIGN MANUAL**

**January 1, 2014**

**Virginia Department of Health**  
**Office of Drinking Water**  
**Financial and Construction Assistance Programs**  
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**Virginia Department of Health  
Office of Drinking Water**

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**I. INTRODUCTION - VIRGINIA DRINKING WATER STATE REVOLVING FUND (DWSRF) PROGRAM**

The federal Safe Drinking Water Act Amendments of 1996 (P.L. 104 -182), referred to as SDWA, established a Drinking Water State Revolving Fund (DWSRF) Program. Funds for the DWSRF are awarded to eligible states through a capitalization grant.

The Virginia Department of Health (VDH) has had primary enforcement responsibility, primacy, for SDWA since 1977. Therefore, VDH has been designated as the agency to apply for and administer the capitalization grant for the DWSRF and the associated state funds.

Funds awarded to a state through a capitalization grant are categorized into two uses; (i) non-project funds or set-asides and (ii) project funds which are to be utilized for construction at public drinking water systems (waterworks). Set-aside funds enhance the ability of the state and owners of waterworks to ensure a waterworks' long-term capacity to produce safe drinking water and to protect construction loan investments. Construction funds for waterworks are to be utilized to address public health problems and to ensure compliance with the provisions of the SDWA. Construction funds may not be utilized to satisfy growth demands.

A 20% state match is required to obtain the capitalization grant. The matching funds must be deposited into a dedicated state loan fund on or before the date the state receives federal grant payments. The *Virginia Water Supply Revolving Fund* (§62.1-233 et seq. of the *Code of Virginia*) has been chosen by VDH as the dedicated state loan fund for Virginia. Under this state law and in conjunction with VDH, the Virginia Resources Authority has certain responsibilities for individual loans.

The development of an annual Intended Use Plan (IUP) is a required part of the application (§1452 (b) of the SDWA) for a capitalization grant. An IUP must describe how the capitalization grant will be expended, including all set-aside and construction funds.

No application fee or other program fees are required to access the Virginia DWSRF program.

Congress has set the following goals in the use of the SRF funds:

1. Assistance to Small Waterworks: A minimum of 15% of the amounts credited to the loan fund as loan assistance to waterworks that regularly serve fewer than 10,000 persons.
2. Green Project Reserve (GPR): A minimum of 20% of the capitalization grant to address green infrastructure, water or energy efficiency improvements, or other environmentally innovative activities.”
3. Additional Subsidization: A minimum of 20% and maximum of 30% of the capitalization grant for additional subsidies to be provided to communities that could not otherwise afford such projects. To further ensure sustainability of projects receiving additional subsidies, these subsidies should be directed to: 1) repair, replacement, and upgrade of infrastructure in existing communities; 2) investigations, studies, or plans that improve the technical, financial and managerial capacity of the assistance recipient to operate, maintain, and replace financed infrastructure; and/or 3) preliminary planning, alternatives assessment and eligible capital projects that reflect the full life cycle costs of infrastructure assets, conservation of natural resources, and alternative approaches to integrate natural or “green” systems into the built environment.

The Commonwealth intends on using the described bypass procedure if necessary to meet these goals.

**All applicants for financing must comply with all applicable federal and state law, regulation or other requirements.**

## **II. GOAL:**

VDH based this Program on the fact that safe drinking water is essential to public health. The goal of VDH in administering the capitalization grant is to provide a comprehensive and integrated technical and financial assistance program to waterworks owners through a balanced approach of using set-aside funding and construction loan funds.

## **III. DEMONSTRATION PROJECT FOR STATE OF VIRGINIA**

The Environmental Protection Agency (EPA) authorizes Virginia to establish a special demonstration project to loan funds to a regional endowment to “...finance new drinking water facilities...” in an area of Southwest Virginia encompassing Planning Districts 1 and 2. The Coalfield Water Development Fund, Inc. (CWDF) was established to assist in meeting the special needs of Southwest Virginia.

## **IV. ELIGIBLE APPLICANTS**

### **A. Construction Loans:**

- An owner of a community waterworks or nonprofit noncommunity waterworks is eligible, except the state and federal government.
- SDWA in § 1452 states “...no assistance shall be provided to a public water system that: (i) does not have the technical, managerial and financial capability to ensure compliance with the requirements of this title or (ii) is in significant noncompliance with any requirement of the national primary drinking water regulations or variance.” However, a waterworks owner may receive assistance if use of the funds will ensure compliance or if the waterworks owner agrees to undertake appropriate changes in operations (including ownership, management, accounting, rates, maintenance, consolidation, alternative water supply, or other procedures) to assure compliance. Significant noncompliance is equivalent to EPA Enforcement Targeting Tool (ETT) scores  $\geq 11$ .
- The *Code of Virginia* requires that a waterworks owner obtain a **permit** from VDH before modifying or establishing a waterworks. VDH’s permitting process includes a **waterworks business operation plan**, which addresses the waterworks owner’s ability to supply safe drinking over the long term by identifying sufficient technical, managerial, financial and operational abilities.

### **B. Set-asides:**

The following is a list of activities for which set-aside funds from the capitalization grant may be applied. Also, applicant eligibility requirements are specified, if any.

- Administration of the DWSRF program and general technical assistance - 4% maximum of grant- None specified.
- Technical assistance to small waterworks – 2% maximum of grant - None specified
- Assistance to state programs – 10% maximum of grant:

- a. for the public water system supervision programs. - None specified
  - b. to provide technical assistance through source water protection programs – None specified.
  - c. to develop and implement a capacity development strategy under section 1420(c) – any waterworks owner is eligible except for the federal government
  - d. for the operator program of section 1419. - None specified.
- Combination of the following - 15% maximum of grant:
    - a. loans to acquire land or a conservation easement to protect source water. – Any community and nonprofit noncommunity waterworks owner is eligible.
    - b. loans for community water systems to implement voluntary source water protection measures. - Any community waterworks owner is eligible
    - c. loans to implement source water protection partnership program - Any community waterworks owner is eligible.
    - d. technical and financial assistance to a water system as part of the capacity development strategy in section 1420(c). - Any community or nonprofit noncommunity waterworks owner is eligible.
    - e. make expenditures from grants available in FY 96 and 97 to delineate and assess source water protection areas as mentioned in section 1453. - None specified.
    - f. make expenditures to establish and implement wellhead protection programs. - None specified.
- C. Attendance is required at our workshop/training session on program requirements for execution of awards for construction, planning grant, or other activities. An initial meeting to review the project specifics is also part of the award process.

## **V. ELIGIBLE COSTS/ELIGIBLE PROJECTS**

VDH may reduce loan eligibility, or reduce scope and size of a project to ensure the greatest benefit to as many waterworks as possible. VDH reserves the right to limit funding participation to the least cost of the feasible alternatives.

Regardless of the size of the community served, successful applicants must comply with the Virginia Public Procurement Act, our program requirements, and procurement procedural guidelines.

Loans from the construction fund may be utilized for upgrading, rehabilitation or reasonable expansion of a waterworks. SDWA (§1452(g)(3)(C)) excludes funding to expand any waterworks in anticipation of future population growth. However, the federal DWSRF Program guidance (February 28, 1997) states that if the primary purpose of the project is to solve a compliance or health problem, the entire project is eligible, including that portion to accommodate reasonable growth over the project's useful life. Funding may be utilized to consolidate waterworks or nonpublic drinking water systems if the water is contaminated or inadequate in quantity or if the system is not able to maintain compliance for financial or managerial reasons. The DWSRF construction program allows for associated planning and design costs. Expenses incurred on an approved project prior to execution of a loan agreement may be eligible if VDH requirements have been met.

Funding of security measures and portable generators may be eligible expenses if the applicant meets VDH requirements. The purchases of land, easements, or rights-of-way are eligible costs if they are an integral part of the project. In addition, a waterworks owner may purchase land under the special set-aside provision of section 1452 for source water protection.

VDH will review all costs for eligibility. To be considered for reimbursement all cost items must be eligible under program guidelines, specific to the project, and necessary for the infrastructural improvement. Costs determined to be associated with any type of operation and maintenance activities are ineligible.

## **VI. TYPES OF FINANCIAL ASSISTANCE**

As authorized in SDWA section 1452, the Virginia DWSRF Program will allow:

- direct loans for project planning and construction,
- the buying or refinancing of municipal debt obligations if the drinking water construction was started and such debt was incurred after July 1, 1993,
- guaranteeing or purchasing insurance for a local obligation, and
- being a source of revenue or security of state bonds if proceeds are deposited in the loan fund.

The Virginia DWSRF Program may consider leveraging depending on annual infrastructural needs as evidenced in the response during the application process. Any leveraging program would be based on EPA's review and approval.

Direct loans will have rates below market with terms normally for 20 years but out to 30 years for a disadvantaged community.

## **VII. CONSTRUCTION LOANS**

Construction loan funds are disbursed on a cost reimbursement basis. All requests for disbursement of loan funds must be substantiated by invoices reviewed and approved by the owner. VDH will review and approve such requests prior to the actual disbursement of funds. All submittals for disbursement are to be made in accordance with the latest version of VDH's Procedural Guidelines.

VDH will have preliminary engineering conferences, review and approve preliminary engineering reports and any required business plans, review and approve project plan design, issue construction permits, have a field presence during construction as well as make a final inspection before issuance of an operating permit, all under the Board of Health's Waterworks Regulations. VDH will oversee the **environmental review**. This effort, in conjunction with owner's and consultant's inspectors, will produce a quality product.

### **A. Target User Rates**

Target user rates are based upon Median Household Income (MHI). The MHI utilized for a project will be based upon the latest census figures or latest update for the city, town or county in which the waterworks is located. Applicants may submit specific comparisons for the waterworks' entire service area. To understand how the target user rate relates to disadvantaged assistance, refer to the following section on Disadvantaged Waterworks.

<u>MHI</u>	<u>Target User Rate</u>
≤\$37,000	0.75% of the MHI
\$37,001 to \$44,200	1.00% of the MHI
\$44,201 to \$58,900	1.25% of the MHI
\$58,901 and above	1.50% of the MHI

The annual cost of debt service, operation, and maintenance is calculated from financial data submitted by the owner. An equivalent residential charge is derived taking into account the number and type of connections. These factors are used to approximate a monthly user cost for a range of interest rates.

The range of possible costs is compared to the community's existing monthly bill and the community's target user rate. A loan interest rate is determined using this data and other factors deemed necessary.

B. Terms

The loan must be fully amortized not later than twenty years (up to 30 years for a waterworks serving a **disadvantaged waterworks**) after completion of the project.

C. Payments

The construction loan recipient will establish one or more dedicated sources of revenue (or in the case of a privately owned system demonstrate that there is adequate security) for repayment of the loan.

Prior to loan receipt, each applicant's financial credit history will be evaluated so VDH may make a final determination on offering a loan. The applicant's financial history will be assessed to determine their default risk and to determine the appropriate collateral to secure repayment of any loan to be offered. Specific provisions that can be required as a condition to making a loan are: establish and collect rents, rates, fees, and charges to produce revenue sufficient; levy and collect ad valorem taxes on all property; create and maintain special funds for the payment of principal and interest; create and maintain other special funds; conveyance of or the granting of liens on or security interests in real and personal property, together with all rights, title and interest therein; or take other actions as deemed necessary or desirable to secure payment of principal and interest.

Principal and interest payments on each loan will commence not later than one year after completion of the project. Part of the interest on a loan may be designated by VDH as a fee and used by VDH for the drinking water program. No fee applies on interest free loans. Payment terms and the beginning date of the payment of the loan are negotiated depending on availability of revenue and the waterworks' financial situation.

D. Core Program Interest Rate

Virginia's financial assistance policy is based on the waterworks owner's ability to repay. The repayment of loans is critical to sustaining the revolving loan fund in perpetuity. Interest rates for loans are established for each applicant by following the guide under Target User Rates. After a target rate monthly user charge is determined, the interest rate of the loan is balanced against this target. VDH will set the interest rate and terms at the time of loan closing. The core program rate is set at 1% below the current market interest rate for municipal 20 year AA revenue bonds. Historically the core program rate has been between 1.4% and 3.5%.

E. Disadvantaged Waterworks Program

• **General**

In addition to the core program, the DWSRF Program allows the state to provide additional subsidization (partial or full forgiveness of principal) to the owner of a waterworks designated as disadvantaged. A minimum of 20 and maximum of 30 percent of the capitalization grant must be used to provide additional subsidization in accordance with EPA's requirements. The State has elected to implement a disadvantaged program and will use forgiveness of loan principal to meet the additional subsidization requirement. Forgiveness of principal will decrease available loan funds. However, this will allow waterworks to undertake projects they could not otherwise construct and therefore protect the public health; and, when coupled with a waterworks business operation plan, it will reduce demand on the loan fund by insuring the long term well being of the waterworks.

No principal and interest payments are due on the portion of a loan designated as "Principal Forgiveness".



Disadvantaged waterworks are those who meet all of the following criteria:

- a. apply for a construction loan to resolve a health or compliance problem,
- b. will serve less than 10,000 people on a retail connection basis,
- c. have or may have, after the project is completed, monthly user rates that exceed the target rate, and
- d. have a customer demographic where the median household income is 80% or less than the state average.

Larger waterworks may receive this designation if taking over another waterworks which would be determined to be disadvantaged under these criteria, or by providing drinking water service to existing unserved documented areas with public health challenges.

#### • Benefits

Where the project resolves health or compliance problems and where monthly user rates conditions warrant, the following will be considered:

- a. interest rates between zero and three percent,
- b. a repayment term of up to 30 years,
- c. partial or full forgiveness of principal at the beginning of the loan.

Following the process described under target user rate and blending one or more of these three considerations; a monthly user rate should result that is more than the target and/or the current rate.

#### F. Small Construction Projects

VDH reserves the right to award 100% Principal Forgiveness to small projects (less than \$150,000 in total cost) due to loss of state funds for small construction project grants, to reduce program requirements and costs by avoiding additional costs associated with the loan program, and to expedite awards and disbursements in accordance with EPA requests.

#### G. Closings for Multiple Projects

If an applicant happens to have multiple successful projects, all may be scheduled to close on the same date.

### VIII. COMPREHENSIVE PRIORITY LIST

The Intended Use Plan (IUP) must contain (i) a comprehensive priority list of projects and set-aside activities that are eligible for assistance, and (ii) a list of eligible projects and set-aside activities to receive funding from the capitalization grant. These lists may be combined into a single list that designates those applicants and set-aside activities to receive funding. Loan applications are solicited annually and prioritized in accordance with rating criteria described below.

Changes in EPA grant conditions, guidance, or interpretation thereof may necessitate reevaluation of project eligibility and priority.

### **Emergency Projects:**

As allowed by EPA VDH reserves the right to fund emergency drinking water projects outside of the priority list of projects. Emergency drinking water projects are defined as necessary water production or distribution projects requiring immediate action to correct an urgent condition that poses an imminent danger to public health and welfare. Some examples of emergencies that may impact waterworks and pose an imminent threat to public health are epidemics, conflagrations, significant storms, hurricanes, floods, tornados, earthquakes or other unusual incidents.

The VDH Commissioner determines what constitutes an imminent threat to public health and welfare under an Emergency Order. An emergency drinking water project will normally necessitate an Emergency Order from the Commissioner in accordance with § 32.1-175 or an Emergency Declaration from the Governor's Office.

Additional criteria:

- The condition must arise from an accident or other unforeseen occurrence or unavoidable condition.
- The condition cannot arise as the result of waterworks deterioration, neglect, dilatory action, or the emergency could not have been prevented or substantially mitigated by exercise of reasonable care of the facilities by the owner.
- The condition can't be addressed in any other way that achieves public health protection (i.e. through issuance of a BWN, discontinuing use of a contaminated source, etc.).
- The condition requires immediate corrective action which cannot await completion of the standard application and award procedures.
- The work associated with correction of the condition is to be generally limited to critical repairs or necessary construction.

Emergency projects may be required to meet all other program requirements prior to funding or disbursement.

### **IX. BY-PASS PROCEDURES**

VDH reserves the right to add and fund a project or to by-pass any project of a higher priority and make loans to one of a lower priority based on one or more of the following:

- Health or compliance problems, resulting from either natural or manmade events, necessitate a project being added to the list or funded out of priority order;
- The project owner does not have the technical, managerial and financial capability to ensure compliance with the requirements of the SRF Program;
- Partial funding for the project has limited financial benefit to the community; but the next community in line for funding can fund most or all of their project with the available funds;
- The project owner not able to execute financing agreements or begin construction **within one year** of VDH's award letter;
- Need to obligate funding to meet EPA/Program goals:
  1. 15% goal to Small Communities (population less than 10,000),

2. 20% goal to Green Projects Reserve,
  3. 20 to 30% goal for Additional Subsidization,
  4. Other equivalency requirements under the EPA grant;
- Detailed project evaluation uncovers information previously unknown or not considered; or level of the required documentation is insufficient to proceed with the decision process. An example is the required prescreening for technical, financial, and managerial capability of an owner may disclose information that would prevent offering a loan to an owner;
  - A project has secured adequate funding elsewhere;
  - The owner withdraws the project; project will be identified as “withdrawn”;
  - The owner is not making sufficient progress on an existing project(s), planning grant(s), or other FCAP activity(ies);
  - The owner has not closed out an existing project(s), planning grant(s), or other FCAP activity(ies);
  - The owner is considered in default with regard to obligations under existing loans. This includes informational requirements to VRA;
  - The owner has initiated construction activities without complying with program requirements;
  - The project scope must be revised and the revisions would result in a reduced project score and priority ranking.

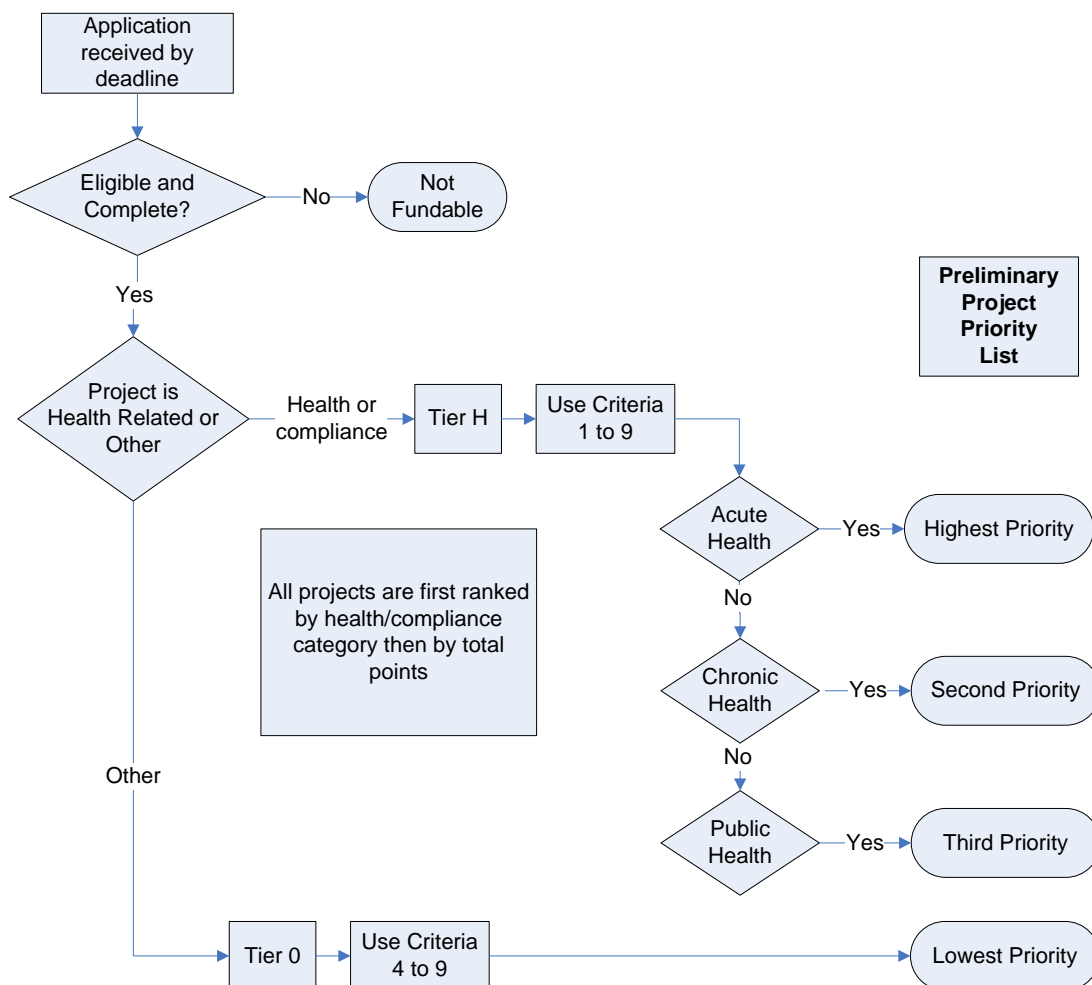
VDH reserves the right to reconsider by-passed projects for future allocations. The owner of a by-passed project is eligible to re-apply for future allocations based upon their submittal of another application and in competition with all applicants for that year. All waterworks whose project has been by-passed will receive assistance needed to prepare future applications, if requested.

## **X. CRITERIA UTILIZED IN PRIORITIZING CONSTRUCTION PROJECTS**

This priority system ensures that all eligible acute, chronic health/ SDWA compliance or public health projects are considered before any other eligible project. The priority of project funding is based upon a two-tiered system after considering eligibility.

Each application for project funding is reviewed and is identified as being based on either (1) an eligible acute, chronic health/ SDWA compliance or public health problem or (2) other problem. All eligible acute, chronic health/ SDWA compliance or public health projects are designated as Health (Tier Designation H). **Tier H projects are funded first and in descending order of acute, chronic health/SDWA compliance and then public health.** The remaining eligible projects are designated as Other (Tier Designation O). After all Tier H projects are funded, Tier O projects would be funded. Remaining eligible applications that are not funded may be retaining in an applicant pool and considered in subsequent funding years.

VDH reserves the right to take into consideration public health issues that have been experienced by the waterworks within the last 12 months prior to application submission even if conditions temporarily improve as might be experienced in the case of waterworks under new ownership or receivership.



After VDH designates a project to a particular tier, it is necessary to sort priority within that tier. Several criteria within three general groups are used to accomplish the sorting within tiers. VDH will assign points to all eligible projects (including potential refinancing efforts) in accordance with the following criteria.

**GROUP I - Health and Compliance Criteria (direct violations or infrastructure needs that affect health issues.)**

- |   |           |
|---|-----------|
| (1) Acute Health Priority, SDWA Compliance                    | 50 points |
| (2) Chronic Health Priority, SDWA Compliance                  | 30 points |
| (3) Public Health Priority, Waterworks Regulations Compliance | 20 points |
| <b>POINTS SUBTOTAL = 100 points</b>                           |           |

**GROUP II--Affordability Criteria**

- |   |           |
|---|-----------|
| (4) County/City/Town/Area Median Household Income (MHI) | 20 points |
| <b>POINTS SUBTOTAL = 20 points</b>                      |           |

GROUP III-- State Discretionary Criteria

(5) Regionalization	8 points
(6) Readiness to Proceed	5 points
(7) Other funds	4 points
(8) Projected cost per connection	5 points
(9) Sustainability/Reliability/Green Project Reserve	8 points

POINTS SUBTOTAL = 30 points

TOTAL	<hr/> 150 points
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**A. GROUP I - Health and Compliance Criteria**

**Acute Health Priority, SDWA Compliance (50 points maximum).** *These are health concerns that affect an individual in the immediate short-term and are given the highest weight of any criteria.*

- Formal Enforcement Action/VDH Order, or Emergency Declaration (50 points)
- Surface Water Treatment Rule violation, i.e., inadequately treated surface water or groundwater under the direct influence of surface water (GUDI) (10 points)
- Persistent Total coliform rule (TCR) or Nitrate violations (10 points)
- Continuing Boil Water Notice (10 points)
- Inadequate individual home water supplies documented by an Investigation Report and letter by District Health Director to show *acute* health hazards. Supporting Investigation Report data will be from at least 25% of the homes in the project area. The samples are to be evenly spaced and all potential line segments are to be sampled. The project map will illustrate the results and problem areas. (5 points).

**Chronic Health Priority, SDWA Compliance (30 points maximum).** *Chronic health problems that affect an individual over a lifetime.*

- Formal Enforcement Action/VDH Order (30 points)
- Persistent PMCL Violations for contaminants such as VOC, SOC, IOC, RAD, etc. (10 points)
- Lead and Copper Action Levels (10 points)
- Enforcement Targeting Tool (ETT) health based score  $\geq 11$  (10 points)

**Public Health Priority, Waterworks Regulations Compliance (20 points maximum)**

*Improvements to infrastructure necessary to bring the waterworks into compliance with the Waterworks Regulations and to ensure the provision of safe drinking water such as:*

- Resolving conditions of inadequate quality and quantity of a groundwater source of water supply. This includes individual home wells. (5 points)
- Ensuring that drinking water receives appropriate treatment to protect the public health. (10 points)
- Preventing conditions favoring the entrance of contaminants into the distribution system. (5 points)
- Increase storage capacity in the waterworks so it is adequate. (5 points)
- Increase adequate pressure in waterworks. Requires documented NOV, a significant deficiency or a hydraulic model (5 points)
- Reduce water losses and increase accountability. Leakage noted as percent ranges, choose only one range, leak rate must be documented (10 points)
- Enforcement Targeting Tool (ETT) health based scores  $\geq 5$  and  $< 11$  (5 points)
- Preventing or resolving aesthetic problems such as taste, odor, or discoloration of water (3 points)

## B. GROUP II--Affordability Criteria

**Affordability-- Median Household Income (20 points maximum).** *The census or latest update median household income (MHI) is used in order to weigh assistance to those with fewer resources available per household. Project specific income surveys may be submitted for use; contact VDH for forms and guidance regarding survey by unbiased third party.*

<u>MHI</u>	
≤\$37,000	20 points
\$37,001 to \$44,200	10 points
\$44,201 to \$58,900	5 points
\$58,901 and above	0 points

## C. GROUP III-- State Discretionary Criteria

**Regionalization (8 points max).** *State law encourages regionalization; therefore, such efforts receive additional consideration.*

Consolidation of multiple non-complying waterworks	(8 points)
Consolidation of one non-complying waterworks	(6 points)
Consolidation of complying waterworks or interconnection	(4 points)
Service to areas with individual homes having documented quality/quantity problems	(2 points)

**Readiness To Proceed (5 points maximum).** *A Preliminary Engineering Report must be submitted with the application if VDH requires one for the project. If not required, a letter from VDH documenting this waiver must be submitted with the application. To expedite funding awards and disbursements VDH is awarding points for projects that demonstrate a greater Readiness to Proceed.*

*If new users are to be added by the project, at least 50% must have signed agreements at time of filing the application. 80% or more must sign agreements for the project to be feasible from a positive cash flow prospective.*

*Points are awarded for user agreements in excess of 50%. The number of user agreements is divided by the total number of new connections. The percentage is compared to the range on the score sheet and the allotted points are added.*

*In addition an adequate water source or source agreement contract is a necessity*

*One (1) point can also be allotted for each of the following completed items.*

- *Environmental Review is completed and accepted by VDH, USDA Rural Development, or DMME.*
- *A PER has been approved or waived*
- *P&S approved/Construction Permit has been issued*
- *A letter documenting the ODW's decision not to require Plans & Specs for the project.*

**Other Funds Available (4 points maximum).** *Incentive points are assigned to encourage an applicant to have other funds in addition to the funds from the DWSRF program. The percentage is calculated by dividing the other funds by the total project cost.*

Less than 5%	0 point
5% to ≤10%	1 point
10% to ≤15%	2 points
15% to ≤20%	3 points
Greater than 20%	4 points

**Projected Cost per Connections Served (5 points maximum).** *The cost per household is calculated by dividing the amount of the construction funds from the DWSRF program by the actual number of households receiving the benefit.*

Less than \$500/household	5 points
\$500 to ≤\$2500/household	3 points
\$2500 to ≤\$5000/household	1 point
Greater than \$5000/household	0 point

**Sustainability/Reliability/Green Project Reserve (8 points maximum).** *Waterworks are encouraged to employ effective utility management practices and consider projects that increase waterworks efficiency, sustainability, and reliability. These practices and projects enable waterworks to acquire and/or maintain technical, managerial, and financial capacity necessary to ensure long-term sustainability and reliability in the provision of drinking water.*

- **Increase Power Reliability (5 points):** Includes the installation or purchase of emergency power infrastructure which may include secondary feeds, standby power, and/or emergency electrical connections. To promote waterworks reliability during natural disasters VDH encourages all applicants to consider including emergency power (where practical) as part of their applications.
- **Increase Water System Reliability (5 points):** Includes the installation of emergency interconnections, emergency wells, auxiliary water supplies, etc.
- **Measures to increase protection of critical drinking water assets/infrastructure (5 points):** This could be the installation of meters or projects that will protect against flooding of critical drinking water assets. Points will be based on the merits of the project proposal.
- **Green Project Reserve (GPR) (5 points):** Includes projects to improve water and energy efficiency. The applicant must provide a Business Case for the specific project in the application even if there are zero GPR dollars. The business case should follow the example following this section. The amount of savings reported in the business case is divided into the total construction cost to obtain a percentage of the total construction cost. The percentage is compared to the point allotment for each range. Refer to Appendix D – Green Project Reserve Sample Calculation for guidance on completing a GPR Business Case.
- **Asset Management Plan (3 points):** The applicant must provide documentation of a functional asset management program. Minimum requirements include but are not limited to:
  - Inventory of existing assets/infrastructure, (i.e., sources, treatment, storage, etc.)
  - Expected useful life of assets vs. remaining useful life
  - Documentation of planned, scheduled maintenance

## **XI. PLANNING AND DESIGN GRANTS**

The 1996 Amendments of the Safe Drinking Water Act (SDWA) encourages States to provide technical assistance to waterworks. In addition to other forms of technical assistance, VDH has created an activity to annually provide planning and design grants up to **\$50,000** per project, especially for small, financially challenged, community waterworks. Eligible projects may include preliminary engineering planning, design of plans and specifications, performance of source water quality and quantity studies, drilling test wells to determine source feasibility, or other similar technical assistance projects.

Private and public owners (except state and federal) of community waterworks are eligible to apply for these grant funds. VDH will consider up to three applications submitted through the Planning and Design Grant Application process in any funding year. Each application must relate to one of the three categories; source, treatment and distribution. However, due to the increased demand of the program, Grant offers will be limited to a maximum of two grants per Public Water System Identification Number per funding year. These funds are intended to assist waterworks owners with future submittals for construction funds. As such; planning grant scope shall not be broken into smaller, separate projects for the same single distribution system.

**Expenses incurred on an approved project prior to execution of an agreement are not eligible costs.**

Administrative and legal fees are not eligible costs. Regardless of their population size, successful applicants must comply with the Virginia Public Procurement Act, our program requirements, and procurement procedural guidelines.

VDH reserves the right to add and fund an activity or to by-pass any activity of a higher priority and make grants to one of a lower priority based on criteria discussed in Section IX.

Criteria for eligibility:

- Applicant must be a community waterworks
- Population served by the waterworks must be fewer than 10,000 persons
- Waterworks must have documented evidence of non-compliance with: primary drinking water standards, *Waterworks Regulations*, or other health protection objectives of the SDWA
- Waterworks must show the need for funding based on existing user water rates, median household income, etc.

*Note: Eligibility for grant assistance is increased when other participants and funding sources are documented as being available.*

Types of projects include (but are not limited to):

- Preliminary engineering planning (maybe required for construction applications)
- Design of plans and specifications
- Environmental reviews
- Treatment studies
- Hydraulic evaluation/water loss evaluation of the system
- Rate studies
- Performance of source water quality and quantity studies
- Drilling, testing and sampling of test wells to determine source water feasibility

This Priority Ranking/Scoring System will be employed to rank all grant applications.

ITEMS CONSIDERED	Maximum Points
<b>ACUTE HEALTH PRIORITY</b> (SDWA Compliance) (50 pts. max.)	
• System under Formal Enforcement, Commissioner declared health hazard, or Emergency Declaration	50
• SWTR Violation	10
• Persistent TCR or nitrate violations	10
• Continuing boil water notice	10
• Documented inadequate water supply showing health hazards	5
<b>CHRONIC HEALTH PRIORITY</b> (SDWA Compliance) (30 pts. max.)	



• System under Formal Enforcement	30
• Persistent PMCL violations (e.g. VOC, SOC, IOC, RAD, etc.)	10
• Lead & Copper action level exceedance	10
• Significant Noncompliance (SNC), (i.e., ETT Score $\geq 11$ )	10
<b>PUBLIC HEALTH PRIORITY (VA WATERWORKS REGULATIONS Compliance (20 pts. max.)</b>	
• Resolve Quality & Quantity of a Groundwater Source	5
• Drinking Water Receives Appropriate Treatment to Protect Public Health	10
• Prevent distribution system contamination & water losses, provide adequate storage/pressure	5
• Enforcement Targeting Tool (ETT) health based scores $\geq 5$ and $< 11$	5
• Preventing or resolving aesthetic problems such as taste, odor, or discoloration of water	3
<b>WATER LOSS EVALUATION (10 pts max)</b>	
• 0% to $< 10\%$ loss	0
• $\geq 10\%$ to $< 20\%$ loss	1
• $\geq 20\%$ to $< 30\%$ loss	2
• $\geq 30\%$ to $< 40\%$ loss	4
• $\geq 40\%$ to $< 50\%$ loss	6
• $\geq 50\%$ to $< 60\%$ loss	8
• $\geq 60\%$ loss	10
Water Loss Total	
<b>WATERWORKS SIZE (20 pts. Max.)</b>	
• $\geq 500$ to $< 10,000$ population	5
• $\geq 250$ to $< 500$ population	10
• $\geq 100$ to $< 250$ population	15
• $< 100$ population	20
<b>PROJECT ON PREVIOUS IUP FUNDABLE LIST BUT BYPASSED</b>	20
<b>PROJECT ON IUP COMPREHENSIVE LIST</b>	10
<b>PROJECT HAS DOCUMENTED OTHER FUNDING SUPPORT/Commitment of Resources (15 pts. max.)</b>	
• 1 source	5
• 2 sources	10
• 3 sources	15
<b>AFFORDABILITY (Use Median Household Income)-(20 pts. max.)</b>	
• $< \$37,000$	20
• $\geq \$37,000$ to $< \$44,200$	10
• $\geq \$44,200$ to $< \$58,900$	5
• $\geq \$58,900$	0
<b>REGIONALIZATION (8 pts. max.)</b>	
• Consolidation of multiple non-complying waterworks	8
• Consolidation of one non-complying waterworks	6
• Consolidation of complying waterworks	4
• Service to areas with individual homes having quality/quantity problems	2
<b>TOTAL</b>	

**Note: Ranking of applications will be prioritized as follows:**

- 1) Applications with acute health risks
- 2) Applications with chronic health risks
- 3) Applications with public health risks
- 4) Applications sorted by total points in each category (highest to lowest)

**XII. 1452 (k) LOCAL ASSISTANCE AND OTHER STATE PROGRAMS (15%)**

“A State may fund several other categories of activities to assist development and/or implementation of local drinking water protection initiatives (section 1452). A State may use up to 15% of the capitalization grant amount...with the stipulation that not more than 10% of the capitalization grant can be used for any one activity.”

Loans to water systems for (1) Land Acquisition/Conservation Easements (2) Incentive Based Voluntary Protection Measures and (3) Petition Program

The 1996 Amendments of the SDWA encourages partnerships between State primacy agencies and waterworks to protect sources of water. This increased emphasis on prevention stresses a philosophy of cooperative interaction, and promotes non-regulatory solutions to protecting and preserving high quality source waters. Source protection will become a larger component in achieving our goal of providing safe and reliable drinking water to the consumer. The expenditure of funds to prevent or eliminate the degradation of sources of water should result in reductions of public health risks, replacement needs, raw water treatment costs, compliance monitoring and system O&M costs. This provision of the SDWA will allow Virginia to loan money for three different types of activities to protect important drinking water resources. Loans are available under the law to: (1) acquire land/conservation easements, (2) establish local, voluntary incentive-based programs, and (3) support local efforts in developing petition programs. Virginia elects to participate in (1) and (2). These activities represent implementation activities after a basic program has been established.

Virginia’s general approach for eligibility requirements, submittal (application) requirements, project ranking, review and oversight for each loan type are described below.

The interest rate will be 1% and the term of loan is 20 years. Principal forgiveness is not allowed under the 1452(k) loans. The procedures for determining loan repayment sources and terms of loan are the same as described for the loans for construction projects. The Virginia Resources Authority will evaluate each applicant’s financial credit history and advise VDH accordingly so VDH may make a final decision on offering a loan. A dedicated account for loan repayments associated with land acquisition/conservation easements and incentive based protection will be established.

**A. Land Acquisition and Conservation Easements**

VDH will utilize its waterworks database to solicit applications from waterworks owners who wish to borrow money to protect their drinking water sources through land acquisition or conservation easements in order to ensure compliance with the SDWA.

Funds will be used to give the highest ranked waterworks loans for purchase of land and/or conservation easements necessary for source water protection. If the loan is used to acquire land, the land must be integral to source water protection for the system, as determined by VDH and identified by VDH as a source water protection area. Source Water Protection Areas are the areas to be

delineated through the VDH's Source Water Assessment Program. Purchase price per acre must be comparable to similar properties recently sold in the area and must be acquired from a willing seller.

#### Eligibility Requirements

- Applicant must be a Community or Non-profit Noncommunity waterworks.
- Site must be located in the "Delineated Source Water Protection Area".
- Landowner must be a willing seller.
- Land cannot be resold while the drinking water source is still being used. If resold, loan payment is due in full at settlement.
- Conservation easements must be recorded in land records.
- For acquired land, the recipient must enter into legally binding agreement to manage land to protect drinking water quality.
- For easements, the waterworks and the landowner must agree to acceptable conservation practices and land uses.

#### Application

The application must include name and address of applicant, name and address of property owner, general vicinity map (USGS topographic quad sheet), copy of tax map and site location drawing (1"=200'). The site location drawing shall include a listing of site constraints and potential pollutant sources, existing land use, existing zoning classification, topography, stream locations, wetlands, ground cover/tree cover, buildings and any other structures and other relevant information. A current appraisal of the fair market value of the property is required with the application. The application must also include the financial information for loan evaluation as required by VA DWSRF.

#### Ranking

I.	SOURCE TYPE	(Maximum 30 points)
	Spring	30 pts
	Surface water	25 pts
	GW under direct influence of surface water	25 pts
	GW Unconfined Aquifer	20 pts
	GW Confined Aquifer	10 pts
II.	SYSTEM TYPE	
1.	Community	20 pts
2.	Nonprofit Noncommunity	10 pts
III.	SOURCE WATER PROTECTION	(Maximum 30 points)
	AREA RELATIONSHIP	
1.	Land Use/Zoning	
	Industrial/Commercial	30 pts
	Residential (greater than 1 du/a)	25 pts
	Residential (less than 1 du/a)	20 pts
	Agriculture	20 pts

	Resource Conservation	10 pts
2.	Project Size (Ratio of project acreage to Watershed or Source Water Protection Area Acreage)	(Maximum 50 points)
	Greater than 50%	50 pts
	≥ 30% to < 50%	40 pts
	≥ 20% to < 30%	30 pts
	≥ 10% to < 20%	20 pts
	≥ 5% to < 10%	10 pts
	Less than 5%	5 pts
3.	Project Proximity to Intake/Wellhead/Recharge Area (Maximum 30 points)	
	Wells – within Source Water Protection Area	30 pts
	Springs within recharge area	30 pts
	Surface intakes – within 500 ft. of reservoir	30 pts
	Surface intakes – within 1 mile of intake & 500 ft. of stream	30 pts
	Surface intakes – greater than 1 mile from intake but within 500 ft. of supply stream or tributary	20 pts
	Outside of Source Water Protection Area but within topographic watershed	10 pts
4.	Pre-existence of a source water protection strategy	30 pts

#### IV. DRINKING WATER STANDARDS

1.	Effect on pollutant concentration at raw water source	(Maximum 30 points)
	Greater than 10% reduction	30 pts
	Less than or equal to 10% reduction	25 pts
	No reduction	15 pts
2.	Effect on organic precursor concentration at raw water source	
	Greater than 10% reduction	15 pts
	Less than or equal to 10% reduction	10 pts

#### **B. Implementation of Voluntary, Incentive-based Source Water Protection**

These funds will be used to give the highest ranked waterworks loans for voluntary incentive-based source protection measures.

##### Eligibility

- Applicant must be a Community Waterworks.
- Programs and measures must be implemented within a delineated source water protection area.
- Project must identify that it will facilitate compliance with primary drinking water standards or otherwise further health protection objectives of the SDWA.
- Participation in programs must be voluntary.
- Programs must identify incentives for local participants.

### Application

Applications must include the name and address of the applicant, the target area for the incentive measures on a USGS quad sheet, and location of device/structure/practice at 1"=200' if sites are already selected. A narrative outlining a description of the proposal, an explanation of how the project meets all eligibility requirements, actions to be taken and its qualitative and quantitative benefits on the water supply must be included. Justification for the amount of the loan requested and a detailed budget is required. The application must also include the financial information for loan evaluation as required by DWSRF.

### Ranking

Types of projects eligible under this component include but are not limited to: creating a local fund for owners and managers of storm water structures to have facilities retrofitted, creating a local fund for business to install containment devices around bulk storage facilities, funding the development of a local source water protection ordinance, creating a local public outreach program that is designed to reduce citizen usage of fertilizers, funding for planting trees or other natural treatment zones to enhance water quality and creating local emergency response capabilities.

Criteria used for ranking these projects are: projects that show multi-agency local support (20 pts), projects that are part of a formal locally based water supply protection effort approved by local governments (20 pts), and projects that address primary public drinking water contaminants detected in water supply (10 pts).

## APPENDICES

- A. Synopsis of Construction Loan Program Requirements
- B. List of presently known Federal Cross-cutters
- C. Application Packages
  - 1) Construction **Loans** (includes instructions and Project Scheduling worksheet)
  - 2) Planning and Design **Grants**
    - a.
    - b.
  - 3) 1452(k) **Loans** for Source Water Protection Initiatives
    - c. Land Acquisition and Conservation Easements
    - d. Voluntary, Incentive-based source protection measures
  - 4) Set-Aside Suggestions Form

## APPENDIX A

### Synopsis of Program Requirements

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#### Introduction:

There are a number of Federal and State requirements which are applicable to projects funded through the Program. It is the intent of the Virginia Department of Health (VDH) to ensure compliance with all of these requirements by our Loan Recipients. **In order for this goal to be achieved, it is important that our Recipients fully understand these requirements and that they follow through in meeting these requirements in a timely manner.**

The Purpose of this synopsis is to provide a very brief summary of the program requirements as they relate to the Recipients. The Synopsis is not intended to explain all of the details of meeting these requirements, as that information is provided in the *Procedural Guidelines*. It is imperative that the Recipient read, understand and follow the procedures presented in the *Guidelines*. This document provides a review of the requirements for easy reference in one location. The guidance documents contained within the *Procedural Guidelines* are referenced as appropriate (as PG #s).

#### Financial (PG #'s 3, 4, 5, 6)

The financial requirements of the Program include:

1. Compliance with the *Virginia Public Procurement Act*. (Recipients must comply with all the requirements of this Act regardless of population size).
2. Compliance with *Office of Management and Budget Circular A-102*.
3. Compliance with the *Uniform Financial Report Manual*.
4. Compliance with the *Single Audit Act*.

An adequate recordkeeping/filing system is the only way to ensure that required records related to the above requirements are maintained and accessible. There is no specific recordkeeping/filing requirements regarding the manner in which files are kept. The *Procedural Guidelines* contains a summary of the type of information that will be reviewed during VDH monitoring visits, and a sample filing system.

#### Planning and Design

There are six (6) Program requirements related to project planning and design. It is important to note that all planning and design requirements must be satisfied prior to closing a loan through the Program. The requirements are as follows:

1. *Environmental Review (ER)* (PG #7) - This requirement is intended to ensure that projects funded through the Program are environmentally sound and is one of the major planning requirements. It involves a review of the environmental impacts of the project alternatives along with any preventive or mitigative measures which could be taken to minimize the adverse impacts. There are three types or levels of environmental review in the Program based on the project's potential for significant environmental impacts; ranging from a relatively simple Categorical Exclusion to the more complex Environmental Impact Statement. The review includes procedures for soliciting public participation into the process and final review and approval.

2. Permit Application - Notification of Intent (PG #8) - This form is submitted by waterworks owners to initiate the project evaluation process. The *Code of Virginia* Section 32.1-172B requires a person to apply to the Field Office of VDH prior to the establishment, construction or operation of a waterworks. Applications also may be completed by telephone and signed during the Preliminary Engineering Conference.
3. Preliminary Engineering Conference (PEC) (PG #8) - The PEC's provides for an exchange of information between all parties and is normally held at the Field Office of the VDH with the environmental engineering staff. The envisioned project will be discussed in its entirety. The applicant's engineer shall be prepared to set forth water supply problems and the proposed solution in such a manner as to support the conclusions and recommendations. Discussions regarding system problems and technical design standards and construction requirements and ongoing financial commitments will help determine if the project is feasible and, if so, the scope of work for the envisioned project.

The effort will enable the owner to consider many elements that will affect the long term economic viability necessary to ensure stability of the project. Preliminary thoughts for design exceptions should be formulated at this step.

PEC's are encouraged for all projects involving treatment processes or complex hydraulics. For routine waterline extensions, a telephone conference may suffice at the discretion of VDH.

4. Waterworks Business Operations Plan (WBOP) (PG #8) - The Program restricts assistance to a waterworks that lacks the technical, managerial or financial capability to maintain compliance with the SDWA and the *Waterworks Regulations* (see PG #1).

In addition, Section 32.1-172 of the *Code of Virginia* states that "an application for a permit shall include a comprehensive business plan detailing the technical, managerial, and financial commitments to be made by the owner in order to assure that the waterworks' performance requirements for providing the water supply will be met over the long term".

In addition the *Code* allows for waiving the comprehensive business plan portion if an applicant has demonstrated an acceptable history of compliance with the *Waterworks Regulations*.

The Program staff, with concurrence with the Field Director, will determine whether a WBOP or another form of certification of technical, managerial and financial capability is required of the applicant. If a WBOP is required of the applicant, the Program staff will provide a document outlining the requirements of such a plan. The field office staff will perform the evaluation.

5. Preliminary Engineering Report (PER) (PG #8) - A PER is required for all projects receiving funding. Information required in the PER is listed in 12 VAC 5-590-200C of the *Waterworks Regulations*. Reports submitted for approval shall be prepared by or under the supervision of a licensed professional engineer legally qualified to practice in Virginia. The field office environmental engineering staff will perform the technical evaluation of PERs.
6. Plans and Specifications (PG #8) - Plans and specifications based on the approved PER are required of all projects. Information required in the plans and specifications is listed in 12 VAC 5-590-200 D, E & F of the *Waterworks Regulations*. Plans and specifications submitted for approval shall be prepared by or under the supervision of a licensed professional engineer legally qualified to practice in Virginia. The Field Office environmental engineering staff will perform the technical evaluation



of plans and specifications. The Program staff will do a biddability review of the plans, specifications and addenda and review all change orders for compliance with the Program requirements.

### Construction Documents

1. *Virginia Waterworks Regulations* - The design of the waterworks facilities must be in conformance with the *Virginia Waterworks Regulations*.
2. *Inclusion of the State Contracts Inserts* - The specifications for the project must include the Contract Inserts provided in the *Procedural Guidelines*. These inserts address the following requirements which must also be mentioned in the Information to Bidders section of the contract documents:
  - (a) *Compliance with Equal Employment Opportunity*
  - (b) *Certification on Non-Segregational Facilities*
  - (c) *Compliance with Minority and Women's Business Enterprise Goals (MBE/WBE)*
  - (d) *Compliance with the Civil Rights Act of 1964*
  - (e) *Compliance with Age Discrimination Act of 1975, Rehabilitation Act of 1973, and the Prohibition against Sex Discrimination*
  - (f) *Utilization of Small Businesses in Rural Areas*

The Recipient must follow the Virginia Public Procurement Act in procuring the goods and services related to project construction. Once the Recipient has selected the contractor for the project, they must submit a bid package to the VDH for review. The bid package must contain evidence of bid advertisement, the bid tabulations, documentation regarding contractor selection, the bid bond, the bid proposal, and documentation verifying solicitation of MBE/WBE firms.

**It is very important to note that the Recipient and Prime contractor must both demonstrate a “good faith effort” in the solicitation and utilization of Minority Business Enterprises / Women’s Business Enterprises (MBE/WBE) during the bid process. Efforts such as public notice, telephone or postal solicitations must be undertaken and evidence of these efforts must be provided in order to ensure VDH participation in the project. Information regarding the anticipated utilization of MBE/WBE firms must also be presented and must demonstrate “good faith effort”.**

Through the course of project construction, the Recipient must monitor contractor solicitation and utilization of MBE/WBE businesses and services. The MBE/WBE Utilization Report Forms must also be submitted by the Recipient to the VDH on a quarterly basis. The VDH will periodically monitor the Recipient’s performance in regard to these requirements.

3. *Final Project Evaluation* - VDH will conduct a final project evaluation to determine whether all program requirements and loan conditions have been satisfied, and that construction of the project was completed in substantial accordance with approved plans, specifications, and change orders. The final evaluation will be conducted after notification by the Recipient that construction is

complete and, if appropriate, will be conducted in conjunction with the Final Inspection referenced in the Waterworks Regulations. Disbursement of Fund proceeds is held to the 95% level until a Final Project Evaluation can be conducted.

### **Summary**

The requirements associated with the Program are detailed in the Program Guidance. VDH staff are available to assist recipients during this process.

## **APPENDIX B** **FEDERAL CROSS-CUTTING REQUIREMENTS<sup>1</sup>**

### **ENVIRONMENTAL AUTHORITIES:**

Archeological and Historic Preservation Act of 1974, Pub. L. 86-523, as amended.  
Clean Air Act, Pub. L. 84-159, as amended.  
Coastal Barrier Resources Act, Pub. L. 97-348.  
Coastal Zone Management Act, Pub. L. 92-583, as amended.  
Endangered Species Act, Pub. L. 93-205, as amended.  
Environmental Justice, Executive Order 12898.  
Farmland Protection Policy Act, Pub. L. 97-98.  
Fish and Wildlife Coordination Act, Pub. L. 85-624, as amended.  
Floodplain Management, Executive Order 11988, as amended by Executive Order 12148.  
National Environmental Policy Act, Pub. L. 91-190.  
National Historic Preservation Act of 1966, Pub. L. 89-665, as amended.  
Protection of Wetlands, Executive Order 11990.  
Safe Drinking Water Act, Pub. L. 93-523, as amended.  
Wild and Scenic Rivers Act, Pub. L. 90-542, as amended.

### **ECONOMIC AND MISCELLANEOUS AUTHORITIES:**

Debarment and Suspension, Executive Order 12549.  
Demonstration Cities and Metropolitan Development Act of 1966, Pub. L. 89-754, as amended, Executive Order 12372.  
Procurement Prohibitions under Section 306 of the Clean Air Act and Section 508 of the Clean Water Act, including Executive Order 11738, Administration of the Clean Air Act and the Federal Water Pollution Control Act with Respect to Federal Contracts, Grants, or Loans.  
Uniform Relocation and Real Property Acquisition Policies Act, Pub. L. 91-646, as amended.

### **SOCIAL LEGISLATION:**

Age Discrimination Act of 1975, Pub. L. 94-135.  
Anti-Lobbying Provisions (40 CFR Part 30) [applies only to capitalization grant recipients].  
Equal Employment Opportunity, Executive Order 11246.  
Section 13 of the Federal Water Pollution Control Act Amendments of 1972, Pub. L. 92-500 (the Clean Water Act).  
Section 129 of the Small Business Administration Reauthorization and Amendment Act of 1988, Pub. L. 100-590.  
Section 504 of the Rehabilitation Act of 1973, Pub. L. 93-112 (including Executive Orders 11914 and 11250).  
The Drug-Free Workplace Act of 1988, Pub. L. 100-690 (applies only to the capitalization grant recipient).  
Title IV of the Civil Rights Act of 1964, Pub. L. 88-352.  
Women's and Minority Business Enterprise, Executive Orders 11625, 12138 and 12432.

Davis-Bacon Act and Related Acts \_\_\_\_\_

<sup>1</sup>This information is provided for guidance and may not include all federal legislation as of this printing.

**APPENDIX C**  
**APPLICATION PACKAGES**  
**(See attached)**

**APPENDIX D**  
**GREEN PROJECT RESERVE SAMPLE CALCUALTION**

### SAMPLE SCENARIO FOR POTENTIAL GREEN PROJECT RESERVE APPLICATIONS

To qualify as Green Project Reserve (GPR), a waterworks must show that the proposed project has significant (not incidental) green benefits. The project must provide green infrastructure, promote water and/or power efficiency, or provide other innovative environmental benefits. To determine if your proposed project can be classified as a GPR project, the first step is to determine which project elements and their associated costs meet GPR criteria. After determining which project elements (and costs) are potentially GPR, a business case showing how the project element is green on both technical and financial grounds. When making a business case for GPR consideration, the supporting information should be as specific and detailed as possible.

#### Sample Scenario

The town of Anywhere, Virginia serves 100 residential customers, and has applied for \$100K in State Revolving Funds through the VDH-DWSRF. Their proposed project will replace 100% of the ageing 6" water mains serving the town, and replace 50% of the water meters currently in use with touch-read meters.

Water loss through leakage is a significant problem for the town: water audits show 60% of average daily production cannot be reconciled. The town produces and treats 100,000 gpd, of which only 40,000 gallons reach customers. Pipe replacement accounts for \$90K of the total project cost. Replacement of the existing meters with touch-read meters accounts for \$10K of the total project costs. The key benefit will be labor savings for the town meter reader.

In this scenario the water line replacement element may qualify as GPR, because it promotes water efficiency, while the meter replacement element does not, because its primary purpose is to modernize the utility's management practices.

The technical basis for the water line replacement is expected reduction in water loss due to leakage from 60% of daily production to no more than 10% loss. The financial basis for the line replacement is expected savings in water production costs (lowering the cost of treatment chemicals, improving the life expectancy of pumps, reducing expenses for electricity) and costs of spot repair and maintenance.

Below is a sample format for organizing your information. Please note that figures shown are for illustration purposes only. Under Financial Component document your systems expected cost savings in the same time unit throughout, where possible (as shown, except for pump life expectancy, cost savings are expressed on per month basis).

Applicant	Anytown Water Utility – Water Main and Meter Replacement Project - <b>Project 299</b>								
Contact Name and Phone	John Smith, Utilities Director (703) 123 4567								
Project Description and associated costs	1. Replace 100% of 6" water mains currently in service to 100 residential and business connections (\$90K) 2. Replace 50% of existing rotary water meters with touch-read meters. (\$10K)								
What project elements can be classified as potentially green?	Water line replacement, at a cost of \$90K.								
Technical Component	<p>By replacing existing 6" water mains that were originally installed in 1930, we expect to reduce documented water loss through leakage by approximately 50%. The waterworks produces and treats an average of 100,000 gpd. Water meter readings show residential use of approximately 400 gpd per residential connection. The waterworks serves 100 households.</p> <table> <tr> <td>Current daily production</td><td>100,000 gpd</td></tr> <tr> <td>Average daily usage</td><td>- 40,000 gpd (400 gpd/ conn. X 100 conn.)</td></tr> <tr> <td>Water loss goal after line replacement</td><td>- 10,000 gpd or less</td></tr> <tr> <td>Expected water <u>savings</u> after replacement</td><td>= <b>50,000 gpd</b></td></tr> </table> <p>It is expected that water use and efficiency will be significantly improved by replacing the existing, ageing pipe as described in the project application.</p>	Current daily production	100,000 gpd	Average daily usage	- 40,000 gpd (400 gpd/ conn. X 100 conn.)	Water loss goal after line replacement	- 10,000 gpd or less	Expected water <u>savings</u> after replacement	= <b>50,000 gpd</b>
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Expected water <u>savings</u> after replacement	= <b>50,000 gpd</b>								
Financial Component	<ol style="list-style-type: none"> <li>40% reduction in treatment chemical costs. Current average monthly costs = \$350. Savings after project = <b>\$140 per month.</b></li> <li>30% reduction in Average monthly electric costs. Current average monthly costs = \$1000. Savings after project = <b>\$300 per month.</b></li> <li>Maintenance crew currently spends 20 hours/month on spot repairs at labor cost of \$800/month. Savings after project = <b>\$800 per month.</b></li> <li>Improved life expectancy on submersible well pump by reducing frequency of cycling. Replacement cost = \$4000 every four years = \$84/month. The waterworks expects to <u>double</u> pump life expectancy after pipe replacement. Savings after project = <b>\$42 per month.</b></li> </ol>								
GPR Dollars Claimed	<b>\$15,400/annually</b> <b>17.1%</b> (as % of VDH funded project)								
Signature/Date	John Smith, April 10, 2012								